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TWO ADJACENT VOWELS IN PAGU AND THEIR ALTERNATING WORD STRESS PLACEMENT

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Abstract
Some diphthongs in Pagu, rather than being pronounced as a single syllable in a normal/rapid speed of speech, can alternate to appear in two different adjacent syllables when pronounced in a slow speech. In Pagu, the speed of speech affects the words syllable number and word stress placement. The previous study suggests that word stress in Pagu is placed on the penultimate syllable. This paper will discuss word stress placement in Pagu in two different speed of speech (normal and slow) as well as two adjacent vowels as affected by the speed and their position in the word. This sheds a light on the behaviors of two adjacent vowels in the stress placement area i.e. whether they are different vowels they can alternate between a diphthong or two separate vowels in two different syllables and when they are identical they cannot be separated into two different syllables when occur in the final position.

Keywords: stress placement; non-Austronesian (Papuan) language; diphthongs; long vowels; syllable structure

Introduction
On my first stage of studying the Pagu language for the Indonesian Institute of Sciences' (LIPI) project (on the endangered languages in Eastern Indonesia documentation/revitalization in 2012-2014), I asked its speakers a lot of questions, e.g. how to say 'bird', 'fish', 'dog', 'cat', 'the sun', 'the sea', the moon' any other nouns, verbs, adverbs, and adjectives in Pagu? I listened to them painstakingly and always asked them to repeat several times in order to spot the word stress placement. The first answered words are always pronounced quicker than those repeated ones. Interestingly, for certain words their syllable numbers are not the same, that is the first pronounced words count one less syllable than the repeated ones. The two words in table 1 below exemplify this.

Table 1. Words with two different and identical adjacent vowels in the prefinal position

Words	Normal speech	Slow speech
/t**ii**la/ 'bad'	[ˈtiː.la]	[ti.ˈ(ʔ)i.la]
/t**ua**ŋe/'eight'	[ˈtua.ŋe]	[tu.ˈ(w)a.ŋe]

In table 1 above, in each the two words /t**ii**la/ ‘bad’ and /t**ua**ŋe/‘eight’ there are two adjacent (identical) /ii/ and (different) vowels /ua/ that occur in the prefinal position (each is followed by a CV syllable). These words can have either two syllables when pronounced in a normal (rapid) speed, or three syllables, in a slow speed. The identical ones can be pronounced as a long vowel [iː] in one syllable (in normal speech) or two [i]s in two separate syllables (where both can be separated by a glottal [ʔ]). The different ones /ua/, can be pronounced as a glide [w] plus [a] in one syllable [wa] (in normal speech) or [u] and [a] in two separate syllables (where between the syllables, the glide [w] can occur).

Furthermore, when two different adjacent vowels occur in the final position in any of the following four possible vowel-consonant patterns: VV, VVC, CVV, or CVVC, the different vowels can also alternate to become one or two syllables (see table 2). In contrast however, long vowels in the final position never alternate to become two identical vowels in two separate syllables (see table 3).

Table 2. two different adjacent vowels in the final position

Patterns	Words	Normal	Slow
VV	/**ao**/ ‘bring’	[ˈao]	[ˈa.o]
VVC	/**aun**/ ‘blood’	[ˈaun]	[ˈa.un]
CVV	/so**ŋou**/ ‘guilty’	[so.ˈŋou]	[so.ˈŋo.u]
CVVC	/**gouŋ**/ ‘real’	[ˈgouŋ]	[ˈgo.uŋ]

Table 3.two identical vowels (a long vowel) in the final position

Expected Patterns (of the slow speech)	Words	Normal/slow	Slow
VV	**Not exist**		
VVC	/**oo**k/ ‘to defecate’	[ˈʔoːk]	*[ˈʔo.ok]
CVV	**Not exist**		
CVVC	/ku.t**uu**l/ ‘big’	[kuˈtuːl]	*[kuˈtu.ul]

The words in table 2 have two different vowels that occur in the final position (they are not followed by another syllable). Like the examples in table 1, they can also alternate to have two different numbers of syllables depending on the speed, i.e. the normal (rapid) one has one and the slow one has two syllables.

Those in table 3 on the other hand when occur in the final position they are always long vowels. Note that Pagu words cannot have the four-possible vowel-consonant patterns in the final position. Unlike those in table 1 and 2, they cannot alternate to have two syllables but rather one only; even when pronounced in a slow speech. (The asterisk (*) symbol means that the pronunciation is not possible).

Figure 1 below outlines the alternating number of syllables of words with two different adjacent vowels in the four possible syllable structures when occur in the final position. They can alternate into two syllables, that form V.V, V.VC, CV.V or CV.VC syllable structure, or a single syllable as they are pronounced as a diphthong.

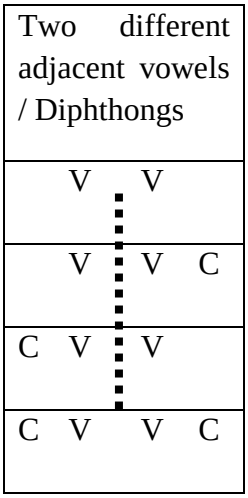


Figure 1. two possible syllabe structure of two different and identical adjacent vowels in the in final position

Because of the facts mentioned above, the word stress in Pagu can be said not always to occur in the penultimate but also in the final position. This determined by four factors: (i) the speed of the speech (normal/rapid vs slow) (ii) the two types of the adjacent vowels (identical vs different vowels) and (iii) the position of the vowels in the words (final or prefinal), and (iv)the heaviness of the syllable. Note that diphthongs and longs vowels are heavy syllables (Hayes 2009), therefore they must be assigned a stress when occur in the final position.

We will see further in this paper that the two different adjacent vowels in the final position can alternate to have one or two syllables based on the following two circumstances:

(a) A slow speech will result a glide insertion: glide /y/ or /w/ always can be inserted between the vowels and functions as a 'syllable boundary' (represented by the dashed vertical line in the left table above). Whether the glide is /y/ or /w/ depends on the first vowel, for example: the front high /i/ or /e/ will allow /y/ whereas, the back high /u/ or /o/ will allow /w/.
(b) A normal/rapid speech can result a vowel replacement by a glide: /i/ is replaced by /y/ and /u/ by /w/.

The identical vowels in the final position on the other hand are always a long vowel, i.e. they cannot alternate to become two syllables. In any other position it can always split into two syllables, and a glottal /ʔ/ can always occur in between as a syllable barrier. Thus, orthographically it suggests that the long vowels in the final position must be presented with two vowels instead of one (e.g. *tuuk* 'to burn' and *feen* 'turtle').

This paper does not present a theoretical perspective rather a descriptive one that makes use of the traditional phonological theories such as the syllabification i.e. onset and rhyme (Selkirk 1982 among others) and heavy syllable (Hayes 2009). I will describe the phenomenon based on the Pagu phonological nature, i.e. certain types of adjacent vowels; whether different or identical adjacent vowels;

which combinations of those vowels allow alternation to become one or two syllables; which ones don't.

By studying this issue, we will better understand the characteristics of long vowels, diphthongs (vowel glides) and glides in Pagu in relations with the language syllable structure. We will also find out that word stress placement is not always on the penultimate but with certain vowels words and under different speed of speech can alternate to appear on the final. In addition, stress is assigned in the final because it is a heavy syllable.

Section 1 will discuss about the Pagu language, section 2 the method. In order to get into the alternating word stress phenomena in Pagu, I will present several Pagu phonological features: phonemes, diphthongs and vowels in section 3 and syllable structure in section 4. In section 5, I will discuss the word stress placement (including the alternating word stress and that additional affixes that follow the base word i.e. epenthesis and suffixes do not affect the word stress placement). Section 6 will conclude this paper.

The language

Pagu is a Papuan (Non-Austronesian) language spoken in the south-eastern end of the west-north peninsula of the Halmahera island (see figure 2). Following Voorhoeve (1983) it belongs to the North Halmaheran language family of the west Papuan phylum that comprises two sub-families: southern and northern sub-family. The former one consists of West Makian and the latter is divided into Ternate Group (Ternate and Tidore) and the Mainland Group that includes Tobelo, Galela, Modole, Tabaru, Loloda, Sahu, and Pagu (see figure 3).



Figure 2. the Pagu area in the Indonesian map (in the black highlight pointed by the arrow).

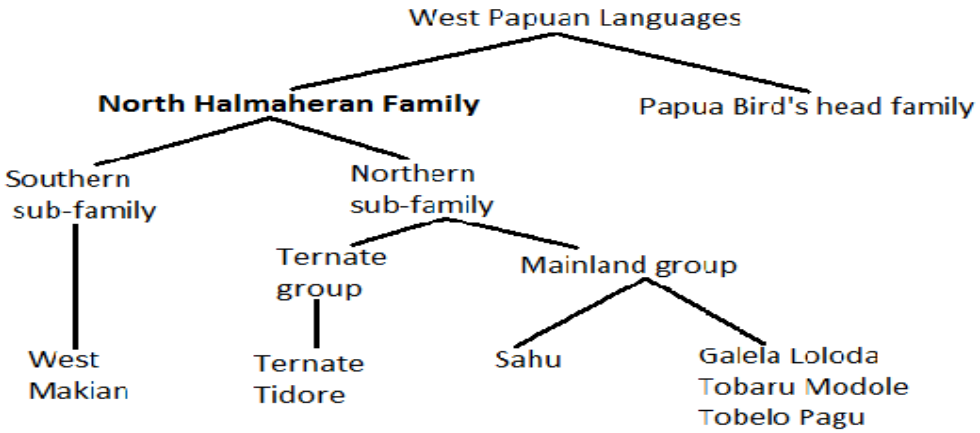


Figure 3. The Voorhoeve's classification of the North Halmaheran family

All previous works on these languages including Pagu (Wimbish 1992) suggest that word stress in each of them is placed on the penultimate when the syllable of the word is more than one (see Ternate (Hayami-Allen 2001), Tidore (van Staden 2000), and Tobelo (Holton 2003) except Sahu that is more 'not predictable' (Visser and Voorhoeve 1987:19).

Method

The data is mainly taken during the Indonesian Institutes of Sciences' (LIPI) project (2012 – 2014) on saving the language from being extinct. I was hired by LIPI to be in charge of documenting and describing the language. Pagu can be considered as an endangered language based on at least the two following reasons: (a) the active speakers of the language are in average aged 45 years old or older and (b) the older generation do not transfer it to the younger generation (Hisyam et.al. 2013).

This paper is taken as a revised version of a phonological phenomenon from the phonology chapter of my PhD thesis entitled "A descriptive grammar of the Pagu language (Perangin Angin 2018), written as a requirement to obtain my PhD degree at the University of Hong Kong.

All data is recorded with an excellent quality of a wav formatted audio recorder. It contains different genres such as folklore telling and conversations among two or three people. All of the recordings have been transcribed in ELAN and Toolbox annotator program. Secondly, the elicitation on how to pronounce words in the normal (rapid) or slow speed are also recorded in the same format, that allow me to carefully listen to the difference in the number of syllables of various words.

In addition, I also use a triglot dictionary of Pagu-Indonesian-English with 1300 entries (Perangin Angin 2014). This is produced by transferring the transcribed recordings in ELAN and Toolbox into Words format that consist of word entries, word pronunciation, examples in sentences and also word stress placement. Note that entries in the dictionary are taken from the natural situation thus they are representations of the the normal/rapid speech.

Phonemes, diphthongs and long vowels

There are twenty four phonemes in Pagu consisting of nineteen consonants (table 4) and five vowels (table 5). Table 4 shows the place and manner of articulation of the consonants and table 5, the height (high, mid and low) as well as the frontness (front, central and back) of the vowels.

Table 4. Consonants in Pagu

	Labial	Alveolar	Palatal	Velar	Laryngeal
Nasals	m	n	ɲ	ŋ	
Plosives (stops)	p b	t d	c j	k g	
Fricatives	f	s			h
Trill		r			
Lateral		l			
Glides	w		y		

Note that Wimbish (1991) and (1992) excludes the /h/ sound. I include this phoneme because of its appearance in several words; it appears in few words and only in the initial position of the following words [haiˈwani] ‘animal’, [ˈhali] ‘expensive’, [ˈhambak] ‘job’, [ˈhara] ‘sort’, [ˈhawa] ‘k.o. fish trap’ and [haˈbari] ‘news’. The /h/ sound cannot be omitted (not optional) otherwise it will change the meaning e.g. [ˈali] (the one without /h/ means ‘to cry’), or become meaningless.

Table 5. Vowels in Pagu

	Front	Central	Back
High	i		u
Mid	e		o
Low		a	

In addition, there are also twenty possible vowel combinations that appear as diphthongs (two vowels with different targets that occur in a single syllables). They are listed in table six below. Basically, any combinations of the five vowels in table 5 above are possible. However, they can be categorized into the four groups (A, B, C, and D) because of their distinctive characteristics when deals with: (i) word stress placement, (ii) their position in the word and (iii) whether pronounced in rapid or slow speech. These can affect whether they can split into two vowels in two different syllables and whether a glide (/y/ or /w/) can be inserted between the two or not. I will discuss these phenomena in more detail in section (4).

Table 6. Pagu diphthongs in four different types

A: /ia/, /iu/, /ie/, /io/, /ua/, /ue/, /uo/, /ui/
B: /ai/, /ei/, /oi/, /au/, /eu/, /ou/
C: /ea/, /eo/, /oa/, /oe/
D: /ae/, /ao/

The four groups of the diphthongs are categorized based on their height and frontness, as the following:

group A: the high front /i/ or high back /u/ is followed by any other vowels.

group B: the low /a/, or mid /e/ or /o/ is followed by either the high front /i/ or high back /u/.
group C: the mid front /e/ is followed by mid back /o/ or vice versa, or followed by the low /a/.
group D: the low /a/ is followed by the mid /e/ or /o/.

When pronounced in a slow speech, these diphthongs can have different manifestations. Diphthongs in Group A and C can have a glide insertion i.e. /y/ in the first four and /w/ in the last four (of A) and /y/ in the first two and /w/ in the last two (of C) (see table 7). Those in Group B and D cannot have a glide insertion (table 8). In contrast, when pronounced in rapid speech, those in Group A and B can have a glide replacement i.e. /i/ is replaced by /y/ and /u/ by /w/. Those in Group C and D cannot have such a sound replacement.

Table 7. Examples of glides replacement and glide insertion in Group A and C in normal and slow speech

		Normal/rapid speech		Slow speech	
		No glide	Glide replacement	No glide	Glide insertion
/dud**ua**l/ 'waterfall (A)		[duˈdual]	[duˈdwal]	[duˈdu.al]	[duˈdu.wal]
/k**iu**k/ 'to pull out'	(A)	[ˈkiuk]	[kyuk]	[ˈki.uk]	[ˈki.yuk]
/d**oe**/ 'end' (C)		[ˈdoe]	*	[ˈdo.e]	[ˈdo.we]
/t**eo**l/ 'to squeeze' (C)		[ˈteol]	*	[ˈte.ol]	[ˈte.yol]

Table 8. Examples of glides replacement and glide insertion in Group B and D in normal and slow speech

	Normal/rapid speech		Slow speech	
	No glide	Glide replacement	No glide	Glide insertion
/lep**ai**t/ 'sandfly' (B)	[leˈpait]	[leˈpayt]	[leˈpa.it]	*[leˈpa.yit]
/bel**eu**l/ 'delta' (B)	[beˈleul]	[beˈlewl]	[beˈle.ul]	*[bele.wul]
/l**ae**m/ 'to lick' (D)	[ˈlaem]	*	[ˈla.em]	*[ˈla.yem]
/s**ao**/ 'to wrap' (D)	[ˈsao]	*	[ˈsa.o]	*[ˈsa.wo]

Because of the characteristics of the glides given above, glides in Pagu can be categorized into two different types: 'absolute' or 'optional'. An absolute glide (/y/ or /w/) is one that appears as a 'pure' consonant (non-syllabic; it must occur with a vowel and function as a syllable barrier). It neither can be replaced by vowel /i/ or /u/ respectively. This is exemplified by the six words in table 6 below. As an optional one here it means that /y/ can be replaced by /i/ and /w/ by /u/ as we have seen in the examples above.

Table 9. Examples of absolute glides.

Word	Meaning	Correct pronunciation	Glide replacement
yayam	'mutter'	[ˈya.yam]	*[ˈia.yam]
yeku	'hill'	[ˈye.ku]	*[ˈie.ku]
you	'leg'	[ˈyou]	*[iou]
wola	'house'	[ˈwo.la]	*[ˈuo.la]
wecar	'headache'	[ˈwe.car]	*[ˈue.car]
wuis	'flow'	[ˈwu.is]	*[ˈuu.is]

The first three ones are words with an absolute /y/ and the last three others are with an absolute /w/. As compared with the optional glides, /y/ and /w/ that can replace the vowel /i/ and /u/ respectively, as the absolute ones cannot.

All the five vowels in Pagu have the long vowel counterparts: /iː/, /uː/, /eː/, /oː/ and /aː/. Each of them can occur in the final or prefinal position.

Table 10. long vowels in the final position

Word	Meaning	Normal speech
w**aa**s	'pour'	[ˈwaːs]
ber**ee**k	'dirt'	[beˑˈreːk]
gol**oo**l	'grease, fat'	[goˑˈloːl]
n**uu**s	'island'	[ˈnuːs]
ding**ii**	'footprint'	[diˑˈŋiː]

Table 11. long vowels in the prefinal position

Word	Meaning	Normal speech
b**oo**to	'finished'	[ˈboːto]
g**aa**ni	'head louse'	[ˈgaːni]
t**ii**la	'bad'	[ˈtiː.la]

When a long vowel is in the final position it must be assigned a stress (ˈ). Note however, when the long vowel is in the prefinal it can split into two different syllables. I will discuss this in more detail in section 5.

Syllable structure

Pagu has four syllable patterns: V, CV, VC and CVC (see also Wimbish 1991 and 1992). It does not have a consonant cluster (in a single syllable) or adjacent consonants in two different syllables.

Figure 4 below sketches the syllable combinations of a Pagu word. As we can see, the last sound of the front syllable cannot become a consonant (coda) if the first sound of the following syllable (onset) starts with a consonant (marked with (*)). Two vowels however can be adjacent in two different syllables (nucleus and nucleus).

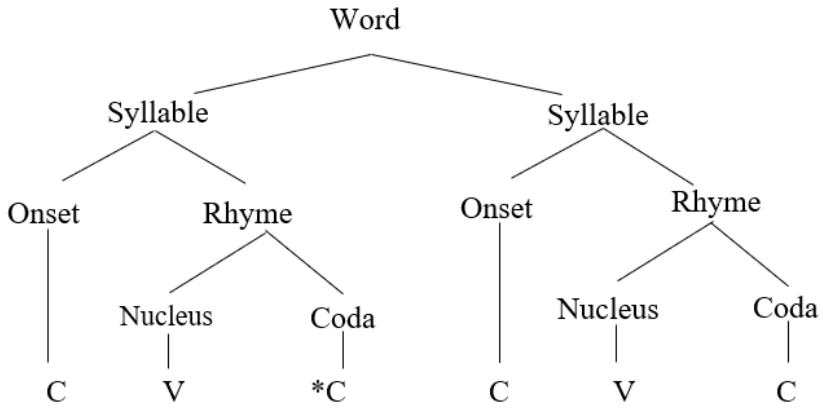


Figure 4. Pagu syllable structure

Pagu words can be monosyllabic (see examples in table 12), disyllabic (table 13), trisyllabic (table 14) or quadrisyllabic (table 15). There are no words with more than four syllables except the reduplicated ones. The four tables below provide with examples of words with each of the given number of syllables mentioned above as pronounced in a slow speech.

Table 12. the four syllable patterns in one-syllabled words/particles

No.	Syllable	Pronunciation	Meaning/function
1	V	[o]	A noun marker particle
2	CV	[de]	'and/with'
		[ma]	A relational noun linker
		[ka]	'only'
3	VC	[ˈoːk]	'to defecate'
4	CVC	[tuːk]	'to burn'
		[feːn]	'turtle'

Table 13. the eight syllable combinations in two-syllabled words

No.	Syllable	Pronunciation	Meaning/function
1	V.V	[a.o]	'to bring'
2	V.CV	[u.wa]	'don't'
3	V.CVC	[o.sis]	'to pee'
4	V.VC	[a.un]	'blood'
5	CV.V	[mi.a]	'monkey'
6	CV.CV	[bu.di]	'to cheat'
7	CV.VC	[lo.at]	'four'
8	CV.CVC	[wa.lik]	'to open'

Table 14. the eight syllable combinations in three-syllabled words

No.	Syllable	Pronunciation	Meaning/function
1	CV.CV.CV	/de.we.la/	‘morning’
2	CV.V.CVC	/ki.a.lon/	‘basket’
3	CV.CV.CVC	/ki.ki.siŋ/	‘fin’
4	CV.CV.V	/so.ŋo.u/	‘guilty’
5	CV.CV.VC	/sa.ma.ek/	‘shy’
6	CV.V.V	/ki.a.u/	‘young’
7	CV.V.CV	/ki.a.ni/	‘only’
8	V.CV.CV	/i.yo.lo/	‘yes’

Table 15. the eight syllable combinations in four-syllabled words

No.	Syllable	Pronunciation	Meaning/function
1	CV.CV.CV.CV	/ka.la.ce.ce/	‘gecko’
2	CV.CV.CV.V	/ti.ŋi.ka.i/	‘onery’
3	CV.CV.CV.CVC	/ku.lu.bi.taŋ/	‘worm’
4	CV.CV.V.CV	/ka.wu.u.lo/	‘when’
5	CV.CV.V.CVC	/so.so.o.yol/	‘jelly fish’
6	CV.V.CV.CV	/sa.u.ra.mo/	‘fog’
7	CV.V.CV.CVC	/gi.a.to.mal/	‘wrist’
8	CV.V.CV.V	/ga.i.lo.a/	‘tomorrow’

As predicted by the Pagu syllable structure in figure 4, and as we can see through the examples in the four tables above, a closed syllable (either VC or CVC) never appears in the initial or medial position. They however can appear in the final position only.

We have seen above that the number of syllables of a word with a diphthong or long vowel will alternate between one or two when pronounced in normal/rapid or slow speech respectively. When the syllable with a long vowel occurs in the final position it cannot alternate to become two different syllables, but in the prefinal position it can. Diphthongs on the other hand by contrast have different behaviors. The different behaviors of the four groups of diphthongs in Pagu when dealing with their position can be outlined in table 16 below.

Table 16. the possible alternation in prefinal and final position of the four groups of Pagu diphthongs

Diphthongs types	Alternation in pre-final	alternation in final
A: /ia/, /iu/, /ie/, /io/, /ua/, /ue/, /uo/, /ui/	✓	✓
B: /ai/, /ei/, /oi/, /au/, /eu/, /ou/	✓	✓
C: /ea/, /eo/, /oa/, /oe/	✓	✓
D: /ae/, /ao/	×*	✓

* can appear in one syllable only

Those of group A can alternate to become one or two syllables in both the prefinal and final position. They can alternate to become two syllables by splitting

the diphthongs into two different syllables or by inserting a glide (as a syllable boundary) in between. They can also become a syllable by replacing the first target /i/ or /u/ with the glide /y/ or /w/ respectively (see table 17 below).

Table 17. Glide insertion and /i/ or /w/ replacement in group A.

	/ie/	/ia/	/iu/	/io/	/uo/	/ua/	/ue/	/ui/
2Sil	[i.(y)e]	[i.(y)a]	[i.(y)u]	[i.(y)o]	[u.(w)o]	[u.(w)a]	[u.(w)e]	[u.(w)i]
1Sil	[ye]	[ya]	[yu]	[yo]	[wo]	[wa]	[we]	[wi]

Those in Group B and C by contrary can alternate to become two different vowels in two different syllables while those in Group D can alternate in the final position only.

Word Stress Placement

In the syllable weight theory both VC and CVC are known as a heavy syllable. In addition, when the V is either a long vowel or a diphthong it is also considered as a heavy syllable too (Hayes 2009:280). We have seen above that when a long vowel occurs in the final position it must be assigned a stress either in normal or slow speech. However, when a diphthong occurs in the final position it can alternate to appear as two different vowels when pronounced in a slow speech. Thus, by default (normal speech) a diphthong in the final position is a heavy syllable and must be assigned a stress.

Word stress in Pagu by default is assigned to the penultimate syllable when the two final syllables of the word has the V.CV, V.CVC, CV.CV or CV.CVC structure (see word examples in table 18 below). We must notice however: (i) the final consonant must begin with a consonant and (ii) the vowel in both syllables must not be a long vowel or a diphthong. If the syllables of the word have these two criteria above whether pronounced in rapid or slow speech, the stress placement will remain in the penultimate syllable.

Table 18. syllable structure that must be assigned a stress on the penultimate

Syllable	Word	Meaning	Pronunciation
V.CV	*uwa*	‘don’t’	[ˈu.wa]
V.CVC	osis	‘pee’	[ˈo.sis]
CV.CV	*budi*	‘cheat’	[ˈbu.di]
CV.CVC	*walik*	‘open’	[ˈwa.lik]

Word stress with long vowels or diphthongs

When the vowel is a long vowel or a diphthong however the stress placement is not automatically on the penultimate, but rather it is determined by two phonological factors: (i) the speed of speech and (ii) their position in the word i.e. prefinal vs. final.

When a diphthong occurs in the final position by default (in the normal speech) it must be assigned a stress. When it is pronounced in a slow speech then it splits into two different syllables (see table 19).

Table 19. Diphthongs in the final position pronounced in normal or slow speech.

Word	Meaning	Normal	Slow
ao	‘bring’	[ao]	[ˈa.o]
aun	‘blood’	[ˈaun]	[ˈa.un]
samaek	‘shy’	[saˈmaek]	[saˈma.ek]
mia	‘monkey’	[ˈmia]	[ˈmi.a]

When it occurs in the prefinal position it can also alternate to occur in one or two syllables depending on the speed of speech (table 20). Note that whenever it occurs as a diphthong or two separate vowels the stress is always assigned on the penultimate syllable.

Table 20. Diphthongs in the prefinal position pronounced in normal or slow speech.

Word	Meaning	Normal	Slow
beika	‘try’	[ˈbei.ka]	[be.ˈi.ka]
kaugon	‘yesterday’	[ˈkau.gon]	[ka.ˈu.gon]
baliara	‘care’	[ba.ˈlia.ra]	[ba.li.ˈar.a]
kialon	‘basket’	[ˈkia.lon]	[ki.ˈa.lon]
tuange	‘eight’	[ˈtua.ŋe]	[tu.ˈa.ŋe]

A Long vowel in contrast when occurs in the final position cannot alternate to occur in the two syllables, and it is always assigned a stress (table 21).

Table 21. long vowels the final position pronounced in normal or slow speech.

Word	Meaning	Normal	Slow
golool	‘oil’	[goˈloːl]	*[goˈlo.ol]
muaan	‘to yawn’	[muˈaːn]	*[ˈmua.an]
nuus	‘island’	[ˈnuːs]	*[ˈnu.us]
ook	‘to defecate’	[ˈʔoːk]	*[ˈʔo.ok]

However, when it occurs in the prefinal, it can alternate in one or two syllables and the stress remains on the penultimate syllable (table 22).

Table 22. long vowels in the prefinal position pronounced in normal or slow speech.

Word	Meaning	Normal	Slow
guule	‘to play’	[ˈguːle]	[guˈule]
kiipit	‘to pinch’	[ˈkiːpit]	[kiˈipit]
kawuulo	‘when’	[kaˈwuːlo]	[kawuˈulo]

Word stress and vocalic epenthesis or suffixes

The word stress placement in Pagu whether assigned on the final or penultimate syllable (in normal or slow speech) only applies to base word. This

means that any other sound that comes after the base will not affect the word stress placement.

In natural conversations, Pagu base words that end in a consonant i.e. VC or CVC commonly will be accompanied by a vocalic epenthesis. It is a vowel that follows the last consonant. The vocalic epenthesis is normally a copy of vowel that appears before the last consonant. Note however when the vowel is long the epenthesis will be the short version and the diphthong will result in the last target vowel. This is exemplified by the words in table 23 below. The vocalic epenthesis are those in bold.

Table 23. Words end in a consonant followed by a vocalic epenthesis in normal or slow speech.

Word	Meaning	Normal speech with epenthesis	Slow speech with epenthesis
aun	'blood'	[ˈaun**u**]	[ˈa.un**u**]
kiipit	'to pinch'	[ˈkiːpit**i**]	[kiˈipit**i**]
samaek	'shy'	[saˈmaek**e**]	[saˈma.ek**e**]
nuus	'island'	[ˈnuːs**u**]	(not possible)

Likewise, suffixes that come after the base words in Pagu do not affect the word stress placement.

(1) no-jaga no-**kodel**-uku-si-li doka

2S-guard 2SG-busy-downwards-IMPRF-REPET yonder

e ma sakai ma i-**olak**-uwa-si-li

EXCL ART cook but 3NH-cooked-NEG-IMPRF-REPET

'you take care of your child while you yourself are really busy, while over there the meal isn't cooked yet'

In the sentence above, there are two base words (those in bold) that are followed by suffixes i.e. *kodel* 'busy' and *olak* 'cook'. The stress placement of each word is on the penultimate [ˈko.del] and [ˈo.lak] respectively. The occurrence of the suffixes (those underlined) do not affect the stress placement namely each remains on the penultimate.

Conclusion

This paper has affirmed whether stress placement in Pagu is not always assigned on the penultimate. It can also appear in the final position when the V is a long vowel, or a diphthong pronounced in a normal/rapid speech. The number of the syllables of words with a long vowel and diphthong when occur in the prefinal position can also alter as a result of it being pronounced in a rapid or slow speech. This happens because they can 'stretch' into two different vowels in two different syllables or remains 'intact' as a single sound in a rapid speech. This paper, not

only has discussed those aforementioned findings but also outlined several features of the phonology of Pagu, such as its phonemes inventories, syllable structure, and different characteristics of diphthongs and long vowels.

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